

REMARKS

In light of the above amendatory matter and remarks to follow, reconsideration and allowance of this application are respectfully solicited.

In the Office Action under reply, claims 1, 2, 6-14 and 18-25 were rejected under 35 USC 112 as being indefinite. Claim 1 is typical and included the recitation:

a plurality of digital signal processing blocks including at least a signal processing block for decoding and processing high speed streams of data, at least some of said digital signal processing blocks having a hardware driver performing a predetermined function assigned to that block and having a processing unit for activating said hardware driver to control hardware of particular structure coupled to said block to perform said predetermined function in response to a high layer command supplied to said processing unit.

The Examiner pointed out that the emphasized words, “that block” and “said block,” were ambiguous because it was not clear which block was intended. By this amendment, claim 1, as well as claim 13, is amended to remove the objectionable recitations and to clearly and unmistakably define the block that is intended. As amended, the claims state that the block in question is “the block that has the hardware driver.” Accordingly, the withdrawal of the rejection of the claims under 35 USC 112 is respectfully requested.

In the Office Action under reply, U.S. Patent 5,838,383 (Chimoto) was relied upon once again to reject all the claims. Claims 1-2, 7-9, 13-14 and 19-21 were rejected as being obvious in view of Chimoto. Chimoto was combined with U.S. Patent 6,469,742 (Trovato) to reject claims 10-12 and 22-25. Chimoto was combined with U.S. Patent 6,198,479 (Humpleman) to reject claims 6 and 18. No claims are allowed.

Reference is made to the history of the prosecution of this application to appreciate and understand the Examiner’s interpretation of Chimoto, Trovato and Humpleman, and Applicants’ traversal of the prior art rejections based upon such interpretation. In Applicants’ claimed

invention, such as recited in claim 1, signal processing blocks include (a) hardware drivers that cooperate with hardware of particular structure, and (b) processing units for activated the hardware driver in that signal processing block to control the cooperating hardware. High layer commands are sent by the host processing block to the processing unit in a signal processing block whereat the high layer commands are interpreted to produce driver control instructions for the hardware driver in that signal processing block to operate the cooperating hardware. As a result of Applicants' invention, the host may send generic commands, rather than specific commands tailored to the specific driver included in the respective signal processing block, as heretofore required by the prior art, namely, Chimoto. See, for example, page 4, lines 8-13; page 5, lines 20-24; page 12, line 21 to page 13, line 20; page 17, line 22 to page 18, line 1; page 23, lines 6-18; and page 24, lines 14-23 of the instant specification.

Thus, the high layer command need not specify the particular functionality that is performed by the hardware driver in the signal processing block, but, rather, merely need instruct that block to operate. Consequently, signal processing blocks may be easily replaced without requiring large-scale rewriting of the programming and software of the host processing block that issues the high layer commands.

As was discussed in Applicants' replies to previous Office Actions, Chimoto describes a multimedia television receiver in which a CPU 313 communicates with several modules over a bus 302 to supply prescribed parameters to those various modules. Once these parameters are set in the modules, the modules can receive and process broadcast satellite signals (see column 9, lines 27-33 of Chimoto). There is no suggestion, however, that the "prescribed parameters" are the high layer commands recited by Applicants' claims 1 and 13. Indeed, it would appear that, by sending "prescribed parameters" to the modules, Chimoto's CPU sends low layer, detailed

instructions, rather than high layer commands, to the modules. Moreover, these "prescribed parameters" appear to be hardware dependent, that is, the specific parameters that are supplied from Chimoto's CPU clearly will change with the module to which those parameters are sent.

In contending that Chimoto discloses "high layer commands," the Examiner argues that (i) it is well known in the art to use high layer commands; and (ii) "Applicant states that the claimed 'higher layer' is disclosed in the specification, however these limitations are not clearly recited in the claims limitations and hence do not carry any weight."

In reply, Applicants' representative asserts that the Examiner has not cited any reference, nor presented any evidence, that the high layer commands recited by Applicants' claims are "well known" in the environment recited in, for example, Applicants' claims 1 and 13, to carry out the functions recited in these claims. Nevertheless, in an effort to expedite the prosecution of this application to its successful conclusion, and as Applicants' representative understands the Examiner's argument (ii) above, claims 1 and 13 are amended to make explicit that which was implicit therein, namely, the characteristics of the claimed "high layer command." It is believed the Examiner acknowledges that the high layer command described in Applicants' specification is not suggested by Chimoto (or by Trovato or Humpleman). Accordingly, by this amendment, claims 1 and 13 recite features not found in the cited prior art and, therefore, are in condition for allowance.

Claim 1 now recites, inter alia,

said high layer command being independent of the particular structure of the hardware coupled to said digital processing block, said high layer command being free of those functionality instructions that control individual ones of said predetermined functions of the hardware driver in said respective digital signal processing block, and said high layer command not being on a real time basis, said high layer command instructing the processing unit in said digital signal processing block to activate said hardware driver of said digital signal processing block to perform the predetermined function assigned to said respective digital signal processing block; and

wherein said processing unit of each of said digital signal processing blocks interprets and executes said high layer command to produce hardware driver control instructions for said hardware driver to operate said cooperating hardware of particular structure coupled to said digital signal processing block in accordance with said high layer command.”

It is respectfully submitted, the "prescribed parameters" supplied by Chimoto's CPU 313 are not the "high layer commands" outputted by Applicants' claimed host processing block. As recited in Applicants' claims 1 and 13, the “high layer command” is: (i) independent of the particular structure of the hardware coupled to the digital processing block, (ii) free of those functionality instructions that control individual ones of the predetermined functions of the hardware driver in the respective digital signal processing block, (iii) not on a real time basis, and (iv) instructs the processing unit in the digital signal processing block to activate the hardware driver of that digital signal processing block to perform the predetermined function assigned to that digital signal processing block. Chimoto is silent with respect to these features that characterize the “high layer command.” Moreover, and contrary to the Examiner’s argument, no evidence has been cited to support the assertion that the “high layer command,” that is characterized in accordance with (i) - (iv) above, is “notoriously well known in the art.”

In addition to the foregoing argument, Applicants’ representative repeats that Chimoto's modules, which the Examiner interprets as corresponding to Applicants' claimed digital signal processing blocks, do not interpret and execute a high layer command coming from CPU 313. Chimoto's modules, once set with the prescribed parameters, have no need to interpret commands from CPU 313 because those modules operate in accordance with those parameters that have been set without further commands from the CPU. In the event one of Chimoto’s

modules is changed to change its function, CPU 313 must send specific parameters (which are quite different from Applicants' "high layer commands") to the changed module to enable that new module to perform its function. Contrary to Chimoto, Applicants' claims 1 and 13 recite a "processing unit for activating said hardware driver to control hardware of particular structure;" in which "said high layer command instruct[s] the processing unit in said digital signal processing block to activate said hardware driver of said digital signal processing block to perform the predetermined function assigned to said respective digital signal processing block;" ... "wherein said processing unit of each of said digital signal processing blocks interprets and executes said high layer command to produce hardware driver control instructions for said hardware driver to operate said hardware of particular structure coupled to said digital signal processing block in accordance with said high layer command." In Chimoto, the driver control parameters must be sent by CPU 313 to each driver; whereas in Applicants' claimed invention, driver control parameters are produced by the signal processing blocks themselves -- no rewriting or reprogramming of the host processor is needed if a driver is changed, as is the case with Chimoto.

It is not clear if the Examiner is relying on Official Notice that it would be obvious to modify Chimoto by having his CPU 313 send high layer commands to each driver; and to modify each driver to include a processing unit that, in turn, interprets high layer commands to supply specific driver parameters to a driver unit. While the Examiner asserts it is "notorious well known in the art to use high layer commands..." he does not specifically rely upon Official Notice. Hence, it is not clear to Applicants' representative whether or not Official Notice is invoked. Nevertheless, as argued previously, Applicants' representative respectfully submits that reliance on Official Notice is improper. It has been held that there is reversible error when

the Examiner relies upon official notice for the particular features claimed which are urged to be novel in the combination claimed and to therein contribute new or improved results. *Ex parte Nouel*, 158 USPQ 237 (Bd of Pat. App. and Int. 1967). See also, 37 CFR 1.104(c)(3):

(3) In rejecting claims the examiner may rely upon admissions by the applicant, or the patent owner in a reexamination proceeding, as to any matter affecting patentability and, insofar as rejections in applications are concerned, may also rely upon facts within his or her knowledge pursuant to paragraph (d)(2) of this section.

(d) Citation of references.

(2) When a rejection in an application is based on facts within the personal knowledge of an employee of the Office, the data shall be as specific as possible, and the reference must be supported, when called for by the applicant, by the affidavit of such employee, and such affidavit shall be subject to contradiction or explanation by the affidavits of the applicant and other persons.

If the Examiner is, in fact, relying upon Official Notice, Applicants' representative requests the Examiner provide support for such reliance; and if the Examiner is relying upon facts within his personal knowledge, an affidavit to that effect is requested.

In view of this significant difference between Applicants' claim 1 and the teachings of Chimoto, the withdrawal of the rejection of claim 1 as being obvious is respectfully solicited.

Claim 13 is directed to the method performed by the apparatus of claim 1. The method of claim 13 includes the steps of:

“outputting and transferring to the processing unit in a respective digital signal processing block, via said common bus, said high layer command, said high layer command being independent of the particular structure of the hardware coupled to said digital processing block, said high layer command being free of those functionality instructions that activate the hardware driver in said respective digital signal processing block to control the coupled hardware of particular structure, and said high layer command not being on a real time basis, said high layer command instructing the processing unit in said digital signal processing block to activate said hardware driver of said digital signal processing block to perform the predetermined function assigned to said respective digital signal processing block; and

wherein said processing unit of each of said digital signal processing blocks interprets and executes said high layer command to produce driver control instructions for said hardware driver to operate said hardware of particular structure coupled to said digital signal processing block in accordance with said high layer command, and outputs said high speed stream of data.”

As mentioned above in connection with claim 1, Chimoto fails to disclose these features.

Accordingly, claim 13 is patentably distinct over Chimoto for the very same reasons discussed with respect to claim 1.

Trovato was relied upon for describing the installation of software to control modules that might be added or substituted in a system. But, Trovato is notably silent with respect to Applicants' claimed high layer commands and the functions performed by those high layer commands.

Humpleman was relied upon for describing a command embedded in a script of hypertext; and the hypertext is interpreted by a browser. But, Humpleman is not suggestive of Applicants' claimed high layer commands and the functions performed by those high layer commands.

Accordingly, even if Chimoto is supplemented by Trovato and/or Humpleman, the resultant combination still would not enable one of ordinary skill in the art to make and use Applicants' claimed invention.

Since dependent claims 2, 6-12, 14 and 18-25 all depend from a respective one of Applicants' independent claims, and thus include all of the recitations found in their respective independent claim, it follows that these dependent claims are patentably distinct over Chimoto, taken alone or in combination with Trovato or Humpleman for those reasons discussed above.

For the foregoing reasons, the withdrawal of the rejections of all the claims and an indication of the allowance of the present application are respectfully solicited.

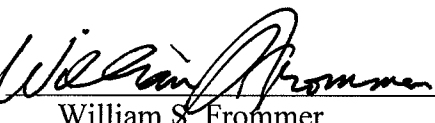
In the event the Examiner disagrees with any of statements appearing above with respect to the disclosure in the cited references, it is respectfully requested that the Examiner specifically indicate those portions of the references providing the basis for a contrary view.

Please charge any additional fees that may be needed, and credit any overpayment, to our Deposit Account No. 50-0320.

Applicants respectfully submit that claims 1-2, 6-14, and 18-25 are in allowable form; and this application is in condition for allowance. Early notice to this effect is respectfully requested.

Respectfully submitted,

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